

32. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 3 months prior to the date the stack concentrations are measured and recorded. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
37. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-84-15

ISSUANCE DATE: 01/25/2010

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 6C **TOWNSHIP:** 20S **RANGE:** 15E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD (SG 6-37) MODEL OH50-ND-16XAM NATURAL GAS/LPG/TEOR GAS (COMMON TO C-311-37, SG 25-19) FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME GLE LOW NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(o). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. This unit shall be fired on PUC-quality natural gas, LPG, or a blend of PUC-quality natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]

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YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
C-311-84-15: Apr 22 2010 8:32AM - RICKARDK : Joint Inspection NOT Required

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7. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 434,700 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.0143 lb-SO_x/MMBtu, 0.00675 lb-PM₁₀/MMBtu, or 0.00855 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 25.3 lb-NO_x/day, 4,782 lb-NO_x/yr, 66.4 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
18. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320]

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19. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
20. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
21. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
25. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days after completion of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Natural gas or LPG sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source; or natural gas or LPG shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
35. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of District Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: 01/25/2010

PERMIT NO: C-311-114-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-36, NATURAL GAS FIRED WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #21013-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O₂, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-114-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-114-6: Apr 22 2010 8:33AM - RICHARDK : Joint Inspection NOT Required

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7. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed the following limits: 526 MMBtu/day nor 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 9.5 lb-NO_x/day, 1,536 lb-NO_x/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: 01/25/2010

PERMIT NO: C-311-117-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 18 TOWNSHIP: 20S RANGE: 15E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 23 MMBTU/HR HOPPER STEAM GENERATOR, HSG-1, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, DIS #5702-66: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 7 PPM @ 3% O₂, AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-117-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-117-6: Apr 22 2010 6:33AM - RICKARDX : Joint Inspection NOT Required

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7. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. This unit shall be fired exclusively on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Natural gas consumption shall not exceed either of the following limits: 526 MMBtu/day or 192,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO_x/MMBtu, 0.005 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 9.5 lb-NO_x/day, 1,536 lb-NO_x/yr, 19.5 lb-CO/day, and 7,104 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. Operator shall provide an annual fuel analysis to the District. [District Rule 4320]
25. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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Appendix B

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-19-16

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GLE MAGNA-FLAME LOW-NOX BURNER WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT NOX TO 9 OR 12 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-19-17 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-19-16: Apr 16 2010 8:45AM - RICHARDK : Joint Inspection NOT Required

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6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
9. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
10. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
11. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The flue gas recirculation system shall be operated whenever the generator is in use. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. Emissions from the steam generator shall not exceed any of the following limits: 0.022 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
17. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit

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22. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
25. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or ≥ 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
26. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (≥ 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
27. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (≥ 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
28. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
29. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
30. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
31. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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32. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
39. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
40. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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41. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
43. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
44. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]
46. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
48. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
49. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-19-17

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13D TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-03 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH NORTH AMERICAN GAS BURNER, MODEL 6131G-LO-NOX WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: INSTALL A NORTH AMERICAN GLE MAGNA-FLAME LOW-NOX BURNER, REDUCE NOX LIMIT TO 15 PPM @ 3% O2 FOR RULE 4306 COMPLIANCE, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-19-17: Apr 16 2019 9:45AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rule 4320]
9. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The flue gas recirculation system shall be operated whenever the generator is in use. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Emissions from the steam generator shall not exceed any of the following limits: 0.022 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 8,240 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
19. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit

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22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
27. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
31. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

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32. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
37. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
41. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-20-18

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13D **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS-FIRED STRUTHERS THERMOFLOOD SG 13-04 STEAM GENERATOR WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH OXYGEN CONTROLLER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 OR 12 PPM @ 3% O₂, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
5. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-20-18 : Apr 16 2010 9:45AM - RICKARDK : Joint Inspection NOT Required

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6. Total consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.004 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
12. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
17. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]

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CONDITIONS CONTINUE ON NEXT PAGE

20. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
21. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (>= 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
22. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (>= 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
23. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by volume PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
25. Fuel H2S, total sulfur, and methane content shall be determined semi-annually using the following test methods H2S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
26. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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29. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. NO_x, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 2520, 9.3.2, 4305, 4306, and 4320]
38. The well casing gas shall be sampled monthly from the gas line down stream from the point where the casing gas from all 4 casing collection systems is connected together and upstream from the point where the well casing gas is fed to the steam generators. The gas sample shall be analyzed by the laboratory for total sulfur and the results shall be given in grain/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

39. Permittee shall maintain monthly records of the total amount of well casing gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall maintain monthly records of the total amount of natural gas consumed by the entire bank of steam generators (in MMscf), along with the date and time of the measurement. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of daily total gas consumption. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. Permittee shall maintain records of all lab analyses. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Casing gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
44. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]
46. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
48. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
49. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

53. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-21-9

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 **TOWNSHIP:** 20S **RANGE:** 14

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-5 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER: INSTALL OPTIONAL USE FGR, LIMIT NOX TO 9 OR 12 PPM @ 3% O2, AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-21-6 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-21-9: Apr 16 2010 9:45AM - RICKARDK : Joint Inspection NOT Required

7. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
9. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.08 lb-PM10/MMBtu, or 0.08 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
13. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NOx @ 3% O2 or 0.014 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NOx/day, 6,409 lb-NOx/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of each start-up and shutdown period exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
20. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit

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21. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted ($\geq 50\%$ PUC quality or $< 50\%$ PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
22. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type ($\geq 50\%$ PUC quality gas or $< 50\%$ PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
23. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
25. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
26. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

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30. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
40. Permittee shall maintain records of higher heating value (hhv) in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit

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41. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: C-311-22-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-06 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND O2 CONTROLLER: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-22-13 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-22-16 : Apr 16 2010 9:45AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired on natural gas and/or well casing gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
13. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emissions from the steam generator shall not exceed any of the following limits: 0.022 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
17. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
24. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
25. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (>= 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
26. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (>= 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
27. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
29. Fuel H2S, total sulfur, and methane content shall be determined semi-annually using the following test methods H2S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
30. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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31. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
44. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-23-14

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-07 THERMOTICS STEAM GENERATOR, MODEL 5G-50-NDS-15, WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION AND O2 CONTROLLER: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-23-11 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070] Federally Enforceable Through Title V Permit
5. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-23-14: Apr 16 2010 9:48AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. A source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
12. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
13. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emissions from the steam generator shall not exceed any of the following limits: 0.022 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
17. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
24. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or ≥ 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
25. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (≥ 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
26. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (≥ 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
27. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O₂ or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O₂ or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
29. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
30. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
44. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT
ISSUANCE DATE: DRAFT

PERMIT NO: C-311-25-8

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 13-9 STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-25-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-25-8 : Apr 16 2010 8:46AM - RICKAROK : Joint Inspection NOT Required

7. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
9. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Emissions from the steam generator shall not exceed any of the following limits: 0.045 lb-PM10/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
13. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NOx @ 3% O2 or 0.014 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NOx/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NOx/day, 6,090 lb-NOx/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
20. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (\geq 50% PUC quality or $<$ 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
22. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (\geq 50% PUC quality gas or $<$ 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
23. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
24. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
25. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
26. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
40. Permittee shall maintain records of higher heating value (hhv) in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

41. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
44. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-27-16

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-11, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, EQUIPPED WITH FLUE GAS RECIRCULATION AND AN OXYGEN CONTROLLER: LIMIT NOX TO 9 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-27-16: Apr 18 2010 9:46AM - RICKARDX : Joint Inspection NOT Required

7. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Total fuel consumption shall not exceed either of the following limits: 1,404 MMBtu/day nor 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO_x/MMBtu, 0.045 lb-PM₁₀/MMBtu, or 0.009 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu or 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 4,785 lb-NO_x/yr, 51.9 lb-CO/day, and 16,084 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
17. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
33. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-28-18

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-12, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION (FGR), AND AN OXYGEN CONTROLLER: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
5. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-311-28-18 : Apr 16 2010 9:46AM - RICKARDK : Joint Inspection NOT Required

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6. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.005 lb-PM₁₀/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
10. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 62.9 lb-CO/day, and 20,953 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
18. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or ≥ 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
19. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (≥ 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]

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20. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (\geq 50% PUC quality gas or $<$ 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
24. NO_x, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District. [District Rule 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
33. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
34. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
35. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule Rules 2520, 9.3.2; 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

40. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
42. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-30-18

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 13 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #13-14, MODEL OH-50-ND-16XAM, NATURAL GAS FIRED, WITH A NORTH AMERICAN GLE BURNER, AN OXYGEN CONTROLLER, AND A FLUE GAS RECIRCULATION (FGR) SYSTEM: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND LIMIT FUEL GAS SULFUR CONTENT TO 5 GR-S/100 DSCF FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fired on natural gas, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
5. Fuel gas shall not contain more than 5 grains of total sulfur per 100 standard cubic feet. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services
C-311-30-18 : Apr 18 2010 9:46AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Total fuel consumption shall not exceed 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Emissions from the steam generator shall not exceed any of the following limits: 0.005 lb-PM₁₀/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201] Federally Enforceable Through Title V Permit
12. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO_x/day, 6,409 lb-NO_x/yr, 67.3 lb-CO/day, and 21,227 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
19. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or ≥ 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit

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20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted ($\geq 50\%$ PUC quality or $< 50\%$ PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
21. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type ($\geq 50\%$ PUC quality gas or $< 50\%$ PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
22. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
24. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
33. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
34. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
35. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
38. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
39. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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40. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
43. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-36-19

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR (SG #25-15), MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE LOW-NOX BURNER, FLUE GAS RECIRCULATION SYSTEM AND AN OXYGEN CONTROLLER SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS FROM SECTIONS 25D AND 6C ONLY: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-36-15 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services
C-311-36-19 : Apr 16 2010 9:48AM - RICKARDK : Joint Inspection NOT Required

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6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
10. Total fuel consumption shall not exceed 435,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee shall maintain and operate a non-resettable, totalizing mass or volumetric flow meter in the fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO₂ scrubber shall operate and shall reduce SO₂ emissions by 95% by weight, or shall limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Whenever the unit is switched to scrubbed operation, compliance source testing for SO_x shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Natural gas containing not more than 5 gr-S/100 dscf shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, or 0.0085 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,090 lb-NO_x/yr, 49.1 lb-CO/day, and 16,095 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 15 ppmvd @ 3% O₂ or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
26. The applicable NO_x and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or ≥ 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
27. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. The NO_x limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (≥ 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NO_x and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
28. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (≥ 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NO_x and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
29. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
30. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
31. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
32. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
39. Source testing to measure SO_x emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
40. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
42. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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43. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
44. Permittee shall measure and record the BTU content of the gas burned at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
45. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
46. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
47. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
49. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
50. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-37-24

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD MODEL OH-50-ND-16XAM STEAM GENERATOR (#25-16) WITH A NORTH AMERICAN MODEL GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-37-24: Apr 18 2010 8:45AM - RICKARDK : Joint Inspection NOT Required

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6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
9. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO₂ scrubber shall operate and shall reduce SO₂ emissions by 95% by weight, or shall limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Whenever the unit is switched to scrubbed operation, compliance source testing for SO_x shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Natural gas containing not more than 5 gr-S/100 dscf shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO_x/MMBtu, 0.014 lb-PM₁₀/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 85.6 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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23. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
25. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
26. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (>= 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
27. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (>= 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
28. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six (36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
29. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
30. Fuel H2S, total sulfur, and methane content shall be determined semi-annually using the following test methods H2S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]
31. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H2S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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32. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
34. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Source testing to measure SO_x emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
39. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
40. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

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42. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
43. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
44. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
45. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
46. Permittee shall measure and record the BTU content of the gas burned at the time of NO_x source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
47. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
49. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
50. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
51. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
52. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
53. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
54. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
56. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-38-23

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR SG 25-17 STRUTHERS THERMOFLOOD MODEL #OH-50-ND-16XAM NATURAL GAS/LPG/WC/TVC GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (SG 25-17): LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-311-38-17 shall be implemented prior to or concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-38-23: Apr 16 2010 9:47AM - RICKARD : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. The permittee shall maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO₂ scrubber shall operate and shall reduce SO₂ emissions by 95% by weight, or shall limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. Whenever the unit is switched to scrubbed operation, compliance source testing for SO_x shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. Natural gas containing not more than 5 gr-S/100 dscf shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Total fuel consumption of this unit shall not exceed either of the following limits: 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
16. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
17. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
18. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO_x/MMBtu, 0.045 lb-PM₁₀/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Maximum emissions from the steam generator, including startup and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 51.9 lb-CO/day, and 16,939 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320]
26. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
27. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (>= 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
28. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (>= 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
29. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
30. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
31. Fuel H2S, total sulfur, and methane content shall be determined semi-annually using the following test methods H2S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228, or double GC; and methane content: ASTM D1945. [District Rule 4320]

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32. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 4306, and 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
35. Source testing to measure SO_x emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
36. NO_x, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
37. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
38. The results of each source test shall be submitted to the District within 60 days after the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
39. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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42. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 2520, 9.4.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Permittee shall maintain daily records of the tray packing flowrate and the quench flowrate. [District Rule 1070 and 2520, 9.5.2] Federally Enforceable Through Title V Permit
46. Permittee shall measure and record the BTU content of the gas burned at the time of NO_x source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
47. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
49. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
50. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
51. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
52. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
53. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
54. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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55. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
56. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-311-39-21

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 25 **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR STRUTHERS THERMOFLOOD STEAM GENERATOR #25-18, MODEL OH-50-ND-16XAM, EQUIPPED WITH A NORTH AMERICAN GLE BURNER AND FLUE GAS RECIRCULATION SERVED BY THE 25D NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS: LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
5. Total fuel consumption shall not exceed 1,404 MMBtu/day nor 457,800 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

C-311-39-21: Apr 18 2010 9:47AM - RICKARDK : Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

6. The permittee shall install and maintain a non-resettable, totalizing mass or volumetric flow meter in each fuel line to the steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Whenever well casing vapors and/or tank vapor recovery gas are being burned in this unit, the SO₂ scrubber shall operate and shall reduce SO₂ emissions by 95% by weight, or shall limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% oxygen. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
8. Whenever the unit is switched to scrubbed operation, compliance source testing for SO_x shall be conducted within 60 days of initial scrubbing date unless source testing under scrubbed operation has occurred within the previous 12 months. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. Natural gas containing not more than 5 gr-S/100 dscf shall be combusted in this unit whenever the scrubber is not being operated. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Scrubber liquor pH shall be maintained between 6.5 and 8.0. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Tray packing flowrate shall be operated at 700 to 840 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Quench flowrate shall be operated at 145 to 185 gallons/minute. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
14. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. Emissions from the steam generator shall not exceed any of the following limits: 0.052 lb-SO_x/MMBtu, 0.045 lb-PM₁₀/MMBtu, or 0.008 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when this unit is burning 50% or greater by volume PUC quality gas on a monthly average basis: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Except during startup, shutdown and the shakedown period, emissions shall not exceed any of the following limits when the unit is burning less than 50% by volume PUC quality gas on a monthly average basis: 12 ppmvd NO_x @ 3% O₂ or 0.014 lb-NO_x/MMBtu and 50 ppmvd CO @ 3% O₂ or 0.037 lb-CO/MMBtu. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO_x/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 50.5 lb-NO_x/day, 6,409 lb-NO_x/yr, 62.9 lb-CO/day, and 20,953 lb-CO/yr. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods exceeding 2 hours. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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22. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
23. The applicable NOx and CO emissions concentration for each month shall be determined based on the volume and type of fuel combusted in the unit (< 50% by volume PUC quality gas or >= 50% by volume PUC quality gas). Permittee shall maintain supporting records that demonstrate the type of fuel combusted. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
24. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. The NOx limit in effect at the time of the startup source testing will be determined based on the volume and type of fuel combusted (>= 50% PUC quality or < 50% PUC quality gas) and shall be identified in the source test protocol. Whenever the fuel type is switched from the fuel type combusted during the initial startup of this unit, compliance source testing for NOx and CO shall be conducted within 90 days of the date the fuel type is switched. [District Rules 2201 and 4320]
25. Source testing is required at least once every twelve (12) months from the initial source test date of each fuel type (>= 50% PUC quality gas or < 50% PUC quality gas). After an initial compliance demonstration with the NOx and CO emission limits for each fuel type on two (2) consecutive source tests, the unit shall be tested not less than once every thirty-six (36) months from the last test date for that fuel type. Testing shall not be required for any fuel type not in use during the 36 month period until such time the fuel type is switched, after which testing shall be performed within 90 days of switching fuel types. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
26. Compliance source testing after switching fuel types is not required if the unit continues to demonstrate compliance with 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas. In which case, source testing shall only be required every thirty-six(36) months for the less than 50% by PUC quality gas. If the result of a source test demonstrates that the unit does not meet 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu and 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu while firing on less than 50% by volume PUC quality gas, the source test frequency shall revert to at least one test every 36 months for each fuel type. [District Rules 2201 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
27. Source testing to measure SOx emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. [District Rule 4320]
28. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
29. NOx, and CO emissions shall be measured with source testing conducted by independent testing laboratory and shall be witnessed or authorized by the District [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
31. Sampling facilities for source testing shall be provided in accordance with the provisions of rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
32. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, Stack Gas Oxygen - EPA Method 3 or 3A or ARB Method 100, Stack Gas Velocity (ft/min) - EPA Method 2, Stack Gas Moisture Content (%) - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, Fuel Gas Sulfur Content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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34. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. Emissions of sulfur compounds from this unit shall not exceed 200 lb/hr, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
39. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
40. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following test methods H₂S: ASTM D6228 or double GC; total sulfur: ASTM D1072; ASTM D3246, ASTM D6228 or double GC; and methane content: ASTM D1945. [District Rule 4320]
41. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or a grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

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42. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD or double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 2520, 9.3.2, 4305, 4306, 4320, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
44. Natural gas sulfur content and higher heating value (hhv) shall be certified by a third party fuel supplier of each fuel source or natural gas shall be tested for sulfur content and higher heating value (hhv) monthly. Waste gas shall be tested for sulfur content and higher heating value (hhv) not less than monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Daily records of the tray packing flowrate and the quench flowrate shall be maintained, retained on the premises for a period of at least five years, and made available for District inspection upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. Permittee shall measure and record the BTU content of the gas burned at the time of NO_x source testing, except for natural gas purchased from a PUC regulated utility. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
47. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
48. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
49. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
50. This ATC shall be implemented according to the date proposed in the District-approved Rule 4320 Emission Control Plan. [District Rule 4320]
51. Permittee shall maintain records of higher heating value (hhv), in MMBtu/scf, for each gaseous fuel used in this operation. [District Rule 2201] Federally Enforceable Through Title V Permit
52. Copies of all , gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted, fuel source, and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
53. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
54. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

56. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-311-40-20

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CHEVRON USA INC
MAILING ADDRESS: PO BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL PRODUCTION
FRESNO COUNTY, CA

SECTION: 25 **TOWNSHIP:** 20S **RANGE:** 14E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 58.5 MMBTU/HR NATURAL GAS, LPG OR PROCESS GAS FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR, MODEL OH-50-ND-16XAM, WITH A NORTH AMERICAN GLE BURNER, FLUE GAS RECIRCULATION SYSTEM, AN OXYGEN CONTROLLER, SERVED BY THE NEPTUNE AIRPOL CAUSTIC SCRUBBER WHEN FIRING WELL CASING AND/OR TANK VAPOR RECOVERY GAS (COMMON TO C-311-37) (SG-25-19): LIMIT NOX TO 9 OR 12 PPM @ 3% O2 AND REQUIRE 95% SULFUR REMOVAL OR 9 PPM SOX LIMIT IN EXHAUST FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This unit shall be fueled with natural gas, LPG, or a blend of natural gas and well casing and tank vapor recovery (TVR) gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
C-311-40-20: Apr 18 2010 9:47AM - RICKARDK: Joint Inspection NOT Required

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061